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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,664	03/15/2001	Robert John Spooner	1	4909

47547 7590 07/12/2005

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EXAMINER

CHANG, RICHARD

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/808,664	Applicant(s) SPOONER, ROBERT JOHN	
	Examiner Richard Chang	Art Unit 2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 1, 2 and 6 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3, 4 and 7-13 is/are allowed.
- 6) ☒ Claim(s) 5, 14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's arguments and amendments with respect to claims 1-15 have been fully considered but are moot in view of the new ground(s) of rejection for claims 5 and 14-15.

Claims 1-2 and 6 had been canceled.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 15 recites the limitation "...as recited in claim 1..." in line 9, claim 15.

There is insufficient antecedent basis for this limitation in the claim.

For further consideration, the examiner assume that the limitation as "...as recited in claim 3..." in line 9, claim 15.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent No. 6,201,829 ("Schneider") in view of U.S. Patent No. 6,738,935 ("Kimmitt").

Regarding claim 5, Schneider et al teaches a high speed data transmission and conversion systems in a transceiver chip including a transmitter section having a system clock (In an integrated circuit having a system clock, a data communication link transmitter) (See Fig. 4, Col 6, lines 42-63) comprising of

a transmitter phase lock loop (Fig. 5, Block 40) (transfer clock generator) locked to the externally supplied 106.25 MHz system reference clock signal which is then multiplied by 10, in order to generate the 1.0625 GHz serial signal clock defining the data rate of the high speed output (transfer clock generator... to the system clock) (See Fig. 5, Col 6, line 42 to Col. 7, line 36),

wherein the transfer clock generator is a phase lock loop (See Fig. 5, block 40; Col 6, line 66 to Col. 7, line 8), and

a parallel to serial serializer (Fig. 5, Block 52) converts the 10-bit parallel data word for serial transmission (See Fig. 5, Col 6, lines 49-57).

Schneider et al teaches all the claimed invention but did not disclose expressly the particular application involving "dividing an input word into a plurality of smaller words and transmitting them over corresponding serial sub-links in response to the transfer clock".

Kimmitt teaches a data transfer techniques for segregating wide parallel data word into a plurality of narrower words and reliably communicating data over a plurality

of serial channels by subdividing the wide parallel data word into a plurality of narrower parallel data words in the transmitter interleave block (Fig. 3, Block 53) and transmitting data contained in the plurality of narrower parallel data words serially over a corresponding plurality of serial channels via the serializers (Fig. 2, Block 16) which convert the narrower width data words from parallel to serial form (a parallel to serial ... serial sub-links in response to the transfer clock) (See Fig. 2-3, Col 3, line 38 to Col. 4, line 49).

A person of ordinary skill in the art would have been motivated to employ Kimmitt in Schneider in order to obtain a transmitter in a data communication link with a system reference clock and a transfer clock generator and to take advantage of a data transfer techniques for segregating wide parallel data word into a plurality of narrower words and reliably communicating data over a plurality of serial channels in claim 5.

The suggestion/motivation to do so would have been to accommodate a transmitter in a data communication link with a system reference clock and a transfer clock generator and to take advantage of a data transfer techniques for segregating wide parallel data word into a plurality of narrower words and reliably communicating data over a plurality of serial channels. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Kimmitt with Schneider to obtain the inventions specified in claim 5.

Kimmitt and Schneider teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of integrating as part of into an ASIC chip.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the transmitter with all the functions into a single application specific integrated chip as merely a matter of obvious engineering choice since it has been held by *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347,349 (CCPA 1965).

Regarding claim 14, Schneider et al further teaches a data communication link including a receiver section (In an integrated circuit having a system clock, a data communication link receiver) comprising of

a serial to parallel deserializer (Fig. 5, Block 58) converts the high speed serial input bit stream then directed to byte sync circuit which restores 10-bit parallel data (See Fig. 5, Col 7, line 58 to Col 8, line 20), and

a receiver phase lock loop (Fig. 5, Block 48) which locks on to an incoming serial signal and recovers a high speed serial clock and data for deserialization and byte synchronization and the deserializer and byte sync circuit (Fig. 5, Block 58) (clock generator) recovers receiver byte clock equivalent to the system clock (a clock generator, responsive to the received data, ... to the system clock) (See Fig. 5, Col 6, line 42 to Col. 7, line 36).

Schneider et al teaches all the claimed invention but did not disclose expressly the particular application involving "a plurality of serial to parallel registers coupled to corresponding serial sub-links, for converting received serial data words from the sub-links into parallel form".

Kimmit further teaches a data receiving techniques wherein the sub link deserializers (Fig. 2, Block 16) convert the respective serial extended width data words

into parallel extended width data words and the parallel extended width data words are coupled to the physical coding sublayer logic (Fig. 2, Block 14) over the SERDES interface to recreate the original parallel data word at the XGMII interface (Fig. 1, Block 24) (a plurality of serial ... words from the sub-links into parallel form) (See Fig. 1-2, Col 3, line 38 to Col. 4, line 49).

A person of ordinary skill in the art would have been motivated to employ Kimmitt in Schneider in order to obtain a receiver in a data communication link with a system reference clock and a clock generator and to take advantage of a data receiving techniques converting the respective serial extended width data words into parallel extended width data words and the parallel extended width data words are coupled to recreate the original parallel data word in claim 14.

The suggestion/motivation to do so would have been to accommodate a receiver in a data communication link with a system reference clock and a clock generator and to take advantage of a data receiving techniques converting the respective serial extended width data words into parallel extended width data words and the parallel extended width data words are coupled to recreate the original parallel data word. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Kimmitt with Schneider to obtain the inventions specified in claim 14.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrate the transmitter with all the functions into a single

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application specific integrated chip as merely a matter of obvious engineering choice since it has been held by In re Larson, 340 F.2d 965, 968. 144 USPQ 347,349 (CCPA 1965).

Allowable Subject Matter

6. Claims 3-4, 7-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if no art rejection can be applied.

Examiner's Statement of Reasons for Allowance

7. The following is an examiner's statement of reasons for allowance:

The prior art along or in combination fails to teach or make obvious the following limitations:

"wherein the transmitter is initialized by sending one or more bit alignment code words" as recited in the independent claim 3.

"a buffer memory for each sub-link for storing a predetermined number of received words; and a circuit for reading the buffer memories in synchronism under control of the system clock in order to reconstitute the input data word" as recited in the independent claim 7.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RKC

rkc

Richard Chang
Patent Examiner
Art Unit 2663

Ricky Ngo
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PRIMARY EXAMINER

7/8/05